

DESCRIPTION

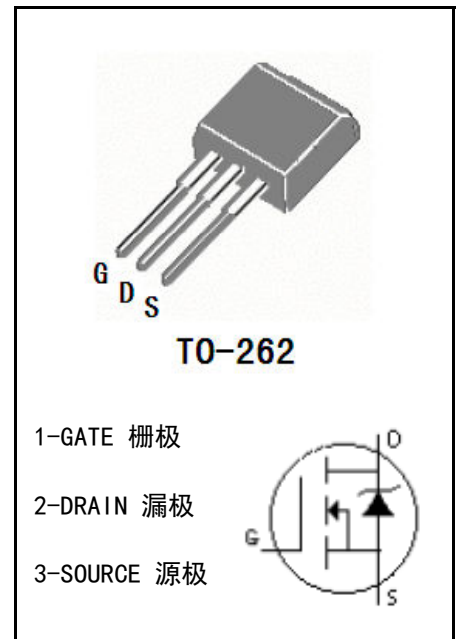
- ELECTRONIC BALLAST
- ELECTRONIC TRANSFORMER
- SWITCH MODE POWER SUPPLY

FEATURES:

- LOW THERMAL RESISTANCE
- HIGH INPUT RESISTANCE
- FAST SWITCHING
- ROHS COMPLIANT

MAXIMUM RATINGS (T_c=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
Drain-source Voltage	VDS	120	V
gate-source Voltage	VGS	±20	V
Continuous Drain Current	ID	160	A
Drain Current-Pulsed	IDM	500	A
Total Dissipation	PD	333	W
Junction Temperature	T _j	175	°C
Storage Temperature Range	T _{stg}	-55-175	°C
Single Pulse Avalanche Energy (L=0.4mH)	EAS	720	mJ

MECHANICAL

ELECTRONIC CHARACTERISTICS (T_c=25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Drain-source Breakdown Voltage	BVDSS	VGS=0V, ID=250 μA	120		V
Gate Threshold Voltage	VGS (TH)	VGS=VDS, ID=250 μA	2	4	V
Drain-source Leakage Current	IDSS	VDS=120V, VGS=0V		1	uA
Drain-Source Diode Forward Voltage	VSD	VGS=0V, IS=20A		1.2	V
Gate-body Leakage Current (VDS = 0)	IGSS	VGS=±20V		±100	nA
Static Drain-source On Resistance	RDS (ON)	VGS=10V, ID=20A		6	mΩ
Thermal Resistance Junction-case	RthJ-c			0.45	°C/W

■ DYNAMIC CHARACTERISTICS (T_c=25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Capacitance	C _{iss}	V _{DS} =35V, V _{GS} =0V, f=1.0MHz	-	7950	-	pF
output Capacitance	C _{oss}		-	645	-	pF
Reverse Transfer Capacitance	C _{rss}		-	255	-	pF
Gate resistance	R _G	V _{gsDCBias} =0V, Speed=MED	-	0.55	-	Ω

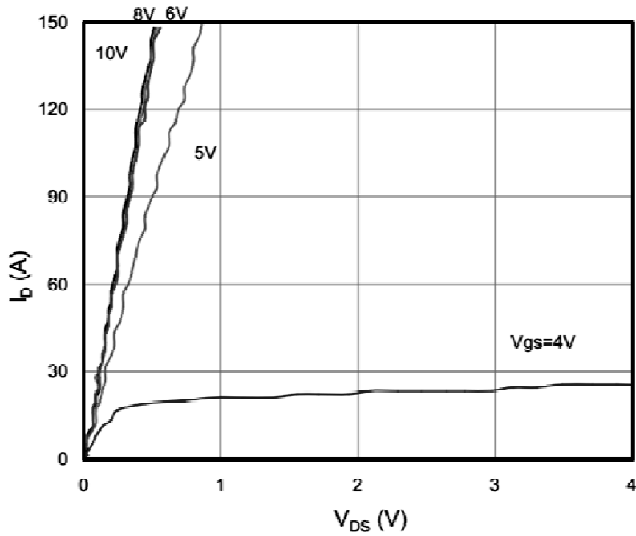
■ SWITCHING CHARACTERISTICS (T_c=25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Turn-On Delay Time	t _{d(on)}	V _{DD} =60V, I _D =20A, V _{GS} =10V, R _G =10Ω	-	30	-	ns
Turn-On Rise Time	t _r		-	23	-	ns
Turn-Off Delay Time	t _{d(off)}		-	50	-	ns
Turn-Off Rise Time	t _f		-	16	-	ns
Total Gate Charge	Q _g	V _{DS} =60V, I _D =20A, V _{GS} =10V	-	92	-	nC
Gate-Source Charge	Q _{gs}		-	29	-	nC
Gate-Drain Charge	Q _{gd}		-	13	-	nC

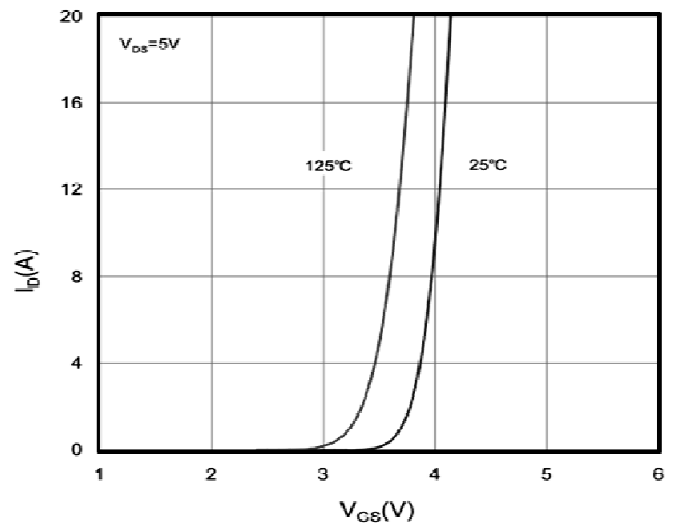
■ DRAIN-SOURCE DIODE MAXIMUM RATINGS AND CHARACTERISTICS (T_c=25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =20A	-	-	1.2	V
Reverse Recovery Time	t _{rr}	V _R =60V, I _F =20A, di/dt=500A/μs	-	70	-	ns
Reverse Recovery Charge	Q _{rr}		-	590	-	nC

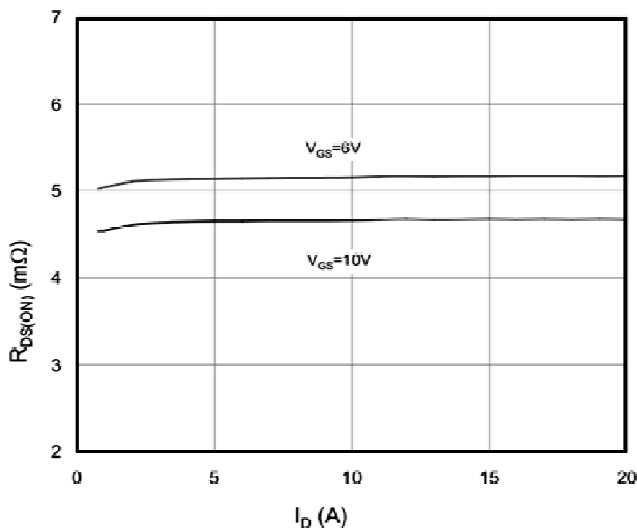
CHARACTERISTICS CURVE



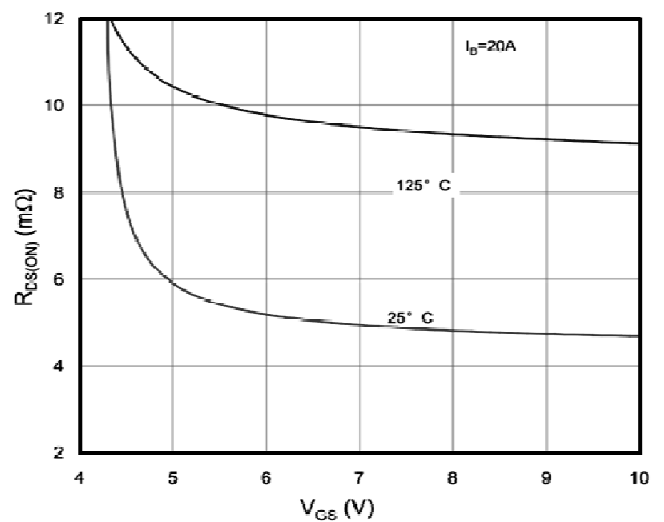
Output Characteristic



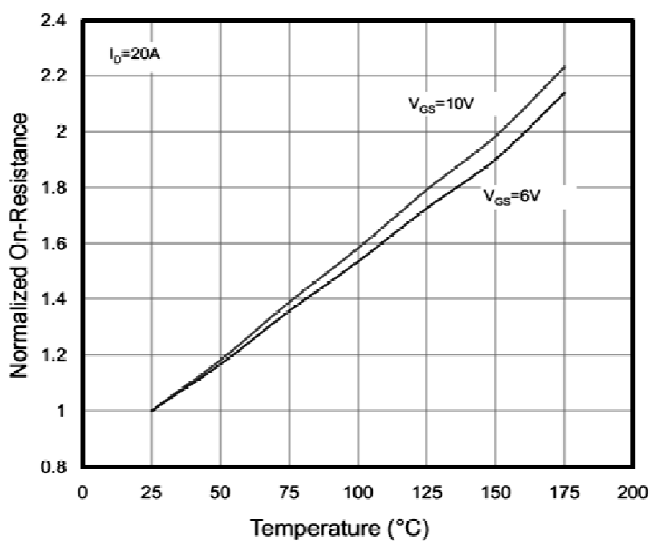
Transfer Characteristic



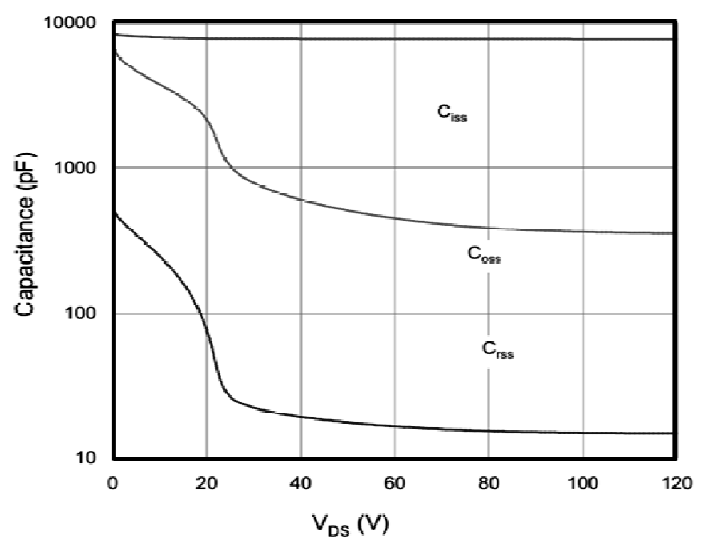
On Resistance Vs Drain Current



On-Resistance vs. Gate-Source Voltage

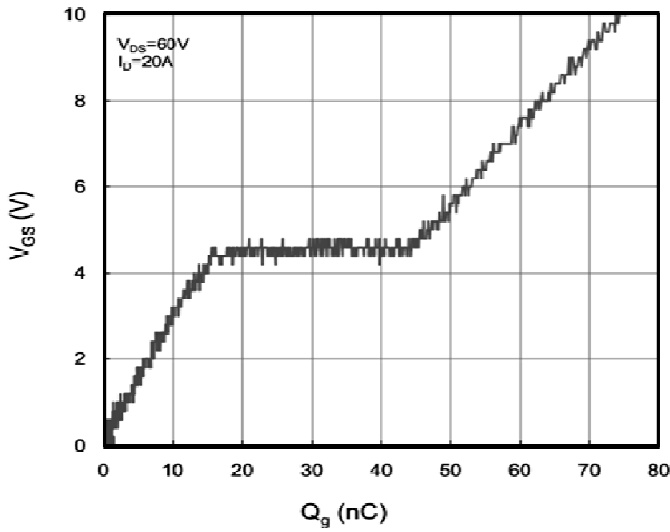


On Resistance Vs Junction Temperature

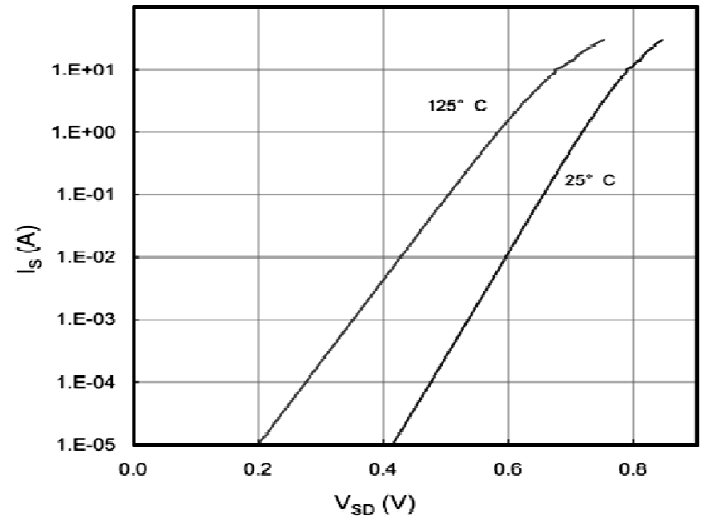


Capacitance

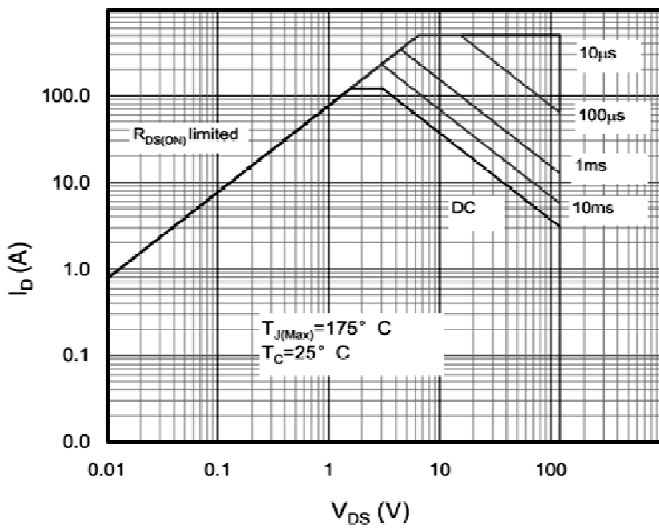
CHARACTERISTICS CURVE



Gate Charge Waveform



Source-Drain Diode Forward Voltage



Maximum Safe Operating Area

TO-262 MECHANICAL DATA

UNIT: mm

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	4.42		4.72	e	2.44	2.54	2.64
A1	2.40		2.80	e1	4.98		5.18
b	0.76		0.86	E	9.95		10.25
b1	1.22		1.40	L	12.50		13.60
C	0.33		0.43	L1	3.30	3.50	3.80
C2	1.22		1.35	L2	1.22		1.40
D	8.99		9.29				

